

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2004/001847

**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 D06F 33/02**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC7 D06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patents and applications for inventions since 1975.

Korean Utility Models and applications for Utility models since 1975.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y         | US 4,843,671(Mitsubishi Denki Corp.) 4 JULY 1989<br>See the whole document         | 1-15                  |
| Y         | US 5,092,140(Toshiba Corp.) 3 MARCH 1992<br>See Fig. 2, Claims 1-7                 | 10-13                 |
| Y         | US 5,570,596(Toshiba Corp.) 5 NOVEMBER 1996<br>See Fig.3, Fig.11, Claims 1-6       | 14,15                 |
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|           |  |                       |

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

19 OCTOBER 2004 (19.10.2004)

Date of mailing of the international search report

**20 OCTOBER 2004 (20.10.2004)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

PARK, Jae Hun

Telephone No. 82-42-481-5643



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

PCT/KR2004/001847

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|---|---------------------|----------------------------|---------------------|
| US 4,843,671                              | 04-07-1989          | JP 61-137656               | 27-08-1986          |
|   |                     | JP 62-122695               | 03-06-1987          |
|   |                     | JP 62-122696               | 03-06-1987          |
| US 5,092,140                              | 03-03-1992          | JP 04-020379               | 23-01-1992          |
| US 5,570,596                              | 05-11-1996          | JP 08-010493               | 16-01-1996          |
|   |                     | JP 08-024477               | 30-01-1996          |